

DART AEROSPACE LTD	Work Order:	21494
Description: Ø2.250 Support	Part Number:	D2891-1
Dwg: D2891 Rev. A1	Qty:	18
Page 1 of 1		

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveller . Blank size makes (2) D2891-1 Dwg not required	HF	04.09.16	16
2	PG	Issue P/O: <u>10016544</u> Description: D6104-003 Material: 17-4 PH SS (AMS 5643 OR AISI 630) as per Dwg D6104 Material release note required.	W	04/09/16	10
3	RG	Receive and Inspect for raw material dimensions. Ensure material release note is attached.	CL	04/09/23	10
4	MS	Turn blank for Haas as per Folio FA046	CP	05/02/26	10
5	QC1	Inspect all dimensions as per Dwg D2891	CP	05/02/26	10
6	MV	Machine as per Folio FA046	9ml	05/04/22	9
7	MV	Tumble & Deburr	9ml	05/04/22	9
8	QC1	Inspect all dimensions to inspection sheet as per Dwg D2891	9ml	05/04/22	9
9	QC8	Inspect dimensions for second check	BE	05.04.25	9
10	FP	Powder Coat White (4.3.5.2) per QSI 005 4.3	MM	05.05.02	9
11	QC3	Inspect Powder Coat	CL	05/05/03	18
12	ST	Identify and stock	CL	05/05/03	18
13	AC	Cost / part <u>66.92</u>	5.05	05.05.05	18
14	DC	Close W/O <u>60.60</u> Inspect Level 21	HA	05.05.18	18

Rev	Date	Change	Revised By	Approved
A	00.12.19	New issue	EC	
B	01.07.17	Reformat	EC	
C	02.11.26	Added P/O	KJ / RF	AS

RELEASED
02.11.29

Dart Aerospace Ltd

Work Order:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Manuf / Design Mgr	Approval QC Inspector

NCR		WORK ORDER NON-CONFORMANCE						
DATE	STEP	Description of NC section A	Initial	Corrective Action Section B	Sign & Date	Verification Section C	Approval Design Mgr	Approval QC Inspector
05/02/25	#4	one part turned in chuck when Boring / Drilling inside Bore	JB 05/02/25	destroy	EP	JB 05-02-25	JB 05-02-25	JB 05-02-25

PAR#: N/A Fault Category: N/A DQA: 29 Date: 05/05/18

QA: N/C Closed: _____ Date: _____

DART AEROSPACE LTD		Work Order:	21494
Description: Ø2.250 Support		Part Number:	D2891-1
Inspection Dwg: D2891 Rev. A1		Page 1 of 1	

Inspect dimensions highlighted on inspection sheet drawing D2891 Rev.A1/DSK076 Rev.A and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
Lathe Section									
A	2.274	2.279		2.275	2.276	2.276	2.275		
B	3.702	3.722		2.712	2.708	2.708	2.708		
C	2.564	2.584		2.578	2.579	2.579	2.579		
D	0.718	0.738		0.724	0.724	0.724	0.724		
E	0.090	0.110		0.109	0.099	0.101	0.099		
F	2.464	2.484		2.478	2.478	2.478	2.478		
G	2.029	2.049		2.039	2.036	2.034	2.036		
H	2.964	2.984		2.978	2.977	2.976	2.975		
I	0.913	0.933		0.924	0.924	0.924	0.924		
J	0.022	0.042		0.032	0.032	0.032	0.032		
K	0.090	0.110		0.100	0.099	0.098	0.100		
L									
HAAS Section									
AA	0.188	0.193	DT8706						
AB	0.240	0.260		0.253	0.248	0.247	0.253		
AC	0.115	0.150		0.130	0.132	0.130	0.130		
AD	0.040	0.060		0.047	0.047	0.050	0.050		
AE	0.010	0.020		0.016	0.010	0.010	0.010		
AF	0.240	0.260		0.250	0.250	0.250	0.250		
AG	0.290	0.310		0.300	0.300	0.305	0.304		
AH	0.115	0.150		0.143	0.142	0.142	0.143		
AI	0.454	0.474		0.459	0.457	0.457	0.460		
AJ	2.779	2.789		2.782	2.782	2.782	2.783		
AK	0.240	0.260		0.250	0.250	0.250	0.250		
AL	1.002	1.042		1.031	1.030	1.025	1.030		
AM	0.053	0.073		0.063	0.063	0.063	0.063		
AN	0.257	0.262	DT8683						
AO	1.663	1.683		1.675	1.673	1.673	1.673		
AP	0.053	0.073		0.063	0.063	0.063	0.063		
AQ	0.022	0.042		0.032	0.032	0.032	0.032		
AR									
AS									
Accept/Reject									

Measured by:	gml
Date:	05/04/21

Audited by:	TSC
Date:	05/04/21

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	

RELEASED
03.07.21

DART AEROSPACE LTD	Work Order: 21494
Description: Ø2.250 Support	Part Number: D2891-1
Inspection Dwg: D2891 Rev. A1	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2891 Rev.A1/DSK076 Rev.A and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
Lathe Section									
A	2.274	2.279		2.278	2.278	2.277	2.278	Ep 05/02/26	
B	3.702	3.722		3.708	2.708	2.707	2.708		
C	2.564	2.584		2.578	2.579	2.579	2.579		
D	0.718	0.738		0.724	0.722	0.724	0.724		
E	0.090	0.110		0.099	0.099	0.099	0.098		
F	2.464	2.484		2.479	2.478	2.478	2.478		
G	2.029	2.049		2.034	2.033	2.033	2.036		
H	2.964	2.984		2.981	2.980	2.979	2.978		
I	0.913	0.933		0.924	0.924	0.924	0.924		
J	0.022	0.042		0.032	0.032	0.032	0.032		
K	0.090	0.110		0.100	0.100	0.100	0.100		
L									
HAAS Section									
AA	0.188	0.193	DT8706	0.252	0.253	0.254	0.254	ML 05/04/22	
AB	0.240	0.260		0.132	0.129	0.136	0.130		
AC	0.115	0.150		0.047	0.047	0.047	0.049		
AD	0.040	0.060		0.010	0.010	0.010	0.010		
AE	0.010	0.020		0.250	0.250	0.250	0.250		
AF	0.240	0.260		0.306	0.306	0.308	0.305		
AG	0.290	0.310		0.142	0.143	0.143	0.143		
AH	0.115	0.150		0.480	0.464	0.461	0.462		
AJ	2.779	2.789		2.784	2.784	2.783	2.783		
AK	0.240	0.260		0.250	0.250	0.256	0.250		
AL	1.002	1.042		1.032	1.031	1.032	1.030		
AM	0.053	0.073		0.063	0.063	0.063	0.063		
AN	0.257	0.262	DT8683	0.063	0.063	0.063	0.063		
AO	1.663	1.683		1.668	1.667	1.675	1.674		
AP	0.053	0.073		0.063	0.063	0.063	0.063		
AQ	0.022	0.042		0.032	0.032	0.032	0.032		
AR									
AS									
Accept/Reject									

Measured by:	ML
Date:	05/04/22

Audited by:	BL
Date:	05/04/22

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	#

RELEASED
03.07.21

DART AEROSPACE LTD	Work Order: 2494
Description: Ø2.250 Support	Part Number: D2891-1
Inspection Dwg: D2891 Rev. A1	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2891 Rev.A1/DSK076 Rev.A and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
Lathe Section									
A	2.274	2.279		2.277	} <i>EW</i> 05/02/26				
B	3.702	3.722		3.704					
C	2.564	2.584		2.578					
D	0.718	0.738		0.724					
E	0.090	0.110		0.099					
F	2.464	2.484		2.478					
G	2.029	2.049		2.035					
H	2.964	2.984		2.977					
I	0.913	0.933		0.924					
J	0.022	0.042		0.032					
K	0.090	0.110		0.098					
L									
HAAS Section									
AA	0.188	0.193	DT8706	0.250				} <i>EW</i> 05/04/22	
AB	0.240	0.260		0.128					
AC	0.115	0.150		0.050					
AD	0.040	0.060		0.010					
AE	0.010	0.020		0.250					
AF	0.240	0.260		0.300					
AG	0.290	0.310		0.142					
AH	0.115	0.150		0.460					
AI	0.454	0.474		2.783					
AJ	2.779	2.789		0.250					
AK	0.240	0.260		1.030					
AL	1.002	1.042		0.063					
AM	0.053	0.073		0.063					
AN	0.257	0.262	DT8683	1.672					
AO	1.663	1.683		0.063					
AP	0.053	0.073		0.032					
AQ	0.022	0.042							
AR									
AS									
Accept/Reject									

Measured by:	<i>EW</i>
Date:	05/04/22

Audited by:	<i>EW</i>
Date:	05/04/22

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	<i>[Signature]</i>

RELEASED
03.07.21

Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

Sep 16, 2004
07:37 am

Work Order No : 0021494
Project Name : D2891-1
Project For : WK443
Work Order Type : Main
Main WO Number :
House Part Number : D2891-1
Description : Support 2.25 dia
Manufactured : Yes
Amount Req'd : 16
Amount Done : 0
Start Date : 09-15-04
Est Finish Date : 10-22-04
Act Finish Date :
Drawings Req'd : No
Ok for Approval :
Approval Rec'd :

Department Code:
Burden Flags : NNNNNNNN
WO Status : Open
Invoice State : Not Invoiced
Invoice Date :
Invoice Number :
Invoice Amount : 0.00
Order Entry No :
OE Value : 0.00
Est Margin : 0.000%
Actual Margin : 0.000%
\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00		
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00		
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00		
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00		
Misc. :	0.00	0.00	0.00	0.00	0.00
Burden :	0.00	0.00	0.00		
Total Cost :	0.00	0.00	0.00		
Margin :	0.000	0.000			
Selling Cost :	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/(Loss) :	0.00	0.00



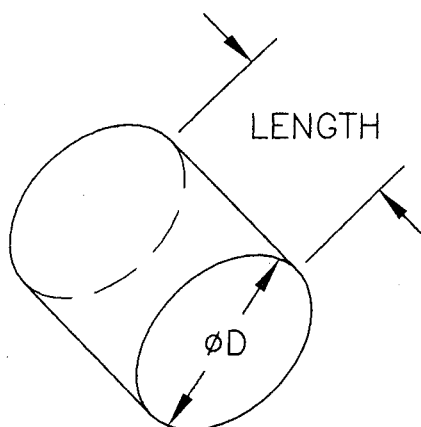
DESIGN F.F.	DRAWN BY [Signature]	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D6104	Rev. B SHEET 1 OF 1
DATE 02.11.25		TITLE ROUND BILLET, 17-4	SCALE NTS
A	01.04.10	NEW ISSUE	
B	02.11.25	CLARIFY ALLOY SPEC ADDED D6104-009/-011 REDUCE LENGTH OF BILLETS	

RELEASED

02.11.24

SPECIFICATION CONTROL DRAWING

CONTROLLED COPY



REFERENCE ONLY

MATERIAL: 17-4 PH SS (AMS 5643 OR AISI 630) MIN UTS = 170 KSI (38 HRc)

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, DIAMETER x LENGTH (+0.030/-0.000) AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES

Part No.	Alloy	D (Diameter)	Length
D6104-001	17-4 PH STAINLESS STEEL	Ø3.00	3.80
D6104-003	17-4 PH STAINLESS STEEL	Ø3.25	3.80
D6104-005	17-4 PH STAINLESS STEEL	Ø4.00	5.10
D6104-007	17-4 PH STAINLESS STEEL	Ø4.50	5.10
D6104-009	17-4 PH STAINLESS STEEL	Ø5.25	4.10
D6104-011	17-4 PH STAINLESS STEEL	Ø6.50	4.10

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GLORIA MATERIAL TECHNOLOGY CORP. INSPECTION CERTIFICATE

台南縣新營市新中路35號1樓
IFL NO.35,HSIN CHUNG RD,HSIN YING,
TAINAN,TAIWAN,R.O.C.
TEL: (06)6520000
FAX: (06)6520088

PO# C94094

Messrs: PROGRESSIVE ALLOY STEEL UNLIMITED L.L.C.

Order No: 2003002845

Grade: 17-4 PH

P.O.NO.: 2747

FILE NO: 2003004705-A

Size: 3-1/4"

Date: 11/26/2003

HEAT-Lot No: R1605-G30

Weight: 1121.0KG

P'cs: 8

Condition: HR-Solution Annealed-Smooth Turned

Chemical Composition (wt%)

	C	Si	Mn	P	S	Ni	Cr	Mo
Min.					0.015	3.00	15.00	
Max.	0.07	1.00	1.00	0.040	0.030	5.00	17.50	0.50
Result	0.02	0.41	0.65	0.024	0.030	4.54	15.78	0.17

Nb+Ta

Min.	0.150
Max.	0.450
Result	0.300

Mechanical Properties Spec.

	Hardness(1/2R)	δ-Ferrite	H900-Hardness(Avg.)
Spec.Min.			40HRC
Spec.Max.	363HB	5%	47HRC
Result	306HB	0.3%	43.3HRC

Tensile Test

	Elongation(A)	Tensile Strength(Rm)	Yield Strength(Rp)	Reduction of Area(Z)
Unit	%	KSI	KSI	%
Min.	10	190	170	35
Max.				
Result	15	199	178	47

Non-Metallic Inclusions :(AMS 2303C)

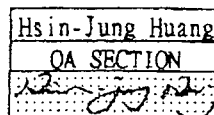
	Severity	Frequency
Max.	0.8	0.8
Result	0	0

Specification:

1.ASTM A484-98,A564-99,A370-97a.,2.ASME SA484(1998),SA564(1998),3.AMS 5643P,2303C(Magnetic Particle Test),4.EN 10204/3.1.B.,5.UNS #S17400.,6.SAE AMS-H-6875.

Remark:

1.MANUFACTURING PROCESS:BAF+VOD+FORGED OR HOT ROLLED.,2.MATERIAL IS FREE FROM MERCURY CONTAMINATION.,3.MACRO/MICRO OK.,4.NO REPAIR BY WELDING.,5.DELTA-FERRITE CONTENT 5% MAX. AS PER AMS 2315.,6.MECHANICAL PROPERTIES TESTED AS PER H900 CONDITION.,7.SOLUTION TREATMENT:1900°F× 4HOURS,RAPIDLY COOLED TO BELOW 90°F.,8.MAGNETIC PARTICLE TEST IS ACCORDING TO AMS 2303C.



Our quality and environment management systems have been certified by ISO 9001 QMS and 14001 EMS.

We hereby certify that the material described herein has been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification.

~~z~~ z - 9.250. R.125

z.950